

part of each: these ingredients are carefully mixed in a pug mill to a stiff consistence, suitable for modelling or moulding, and then worked into the various forms required. With a view to ensure perfect burning, an uniform thickness must be preserved in all parts, usually about 1½ inch, but proportionate to the strength and bulk required: considerable attention is necessary in the process of drying, that it should be slow and regular, so as to avoid any distortion of form. The time to be allowed must, in some measure, be governed by the state of the atmosphere, and other circumstances: the same considerations regulate the burning, which should proceed by very slow degrees to a white heat, and ample time should be allowed for cooling, the practice in these respects, which appears to vary very widely in different manufactories, allowing from ten to fourteen days for drying, from seven to fourteen for burning, and three to four for cooling.

The kiln at Messrs. W. Cubitt and Co.'s, which may be taken as an ordinary example, is a cylinder of 10 ft. 6 in. diameter externally, and 10 ft. high to the base of the cone. The enclosing wall is two bricks thick, having a large opening for packing and unpacking the articles to be burnt. When the kiln is filled, this is closed up with lumps, preparatory to lighting the furnace. The interior is lined with tiles half an inch thick, grooved, and tongued together, and set in Stourbridge clay, leaving a vacancy of four inches, which is called the muffling, all round. There are two furnaces, and about three tons of coals (Hartley's) are consumed in one burning. The progress of the burning is ascertained by looking through an inspection hole with a lens in the side of the kiln.

It should be observed, that the chief difficulty in preparing this material for the several purposes mentioned, is its liability to become distorted in drying and burning: to avoid this, it is necessary that the pieces should be short in proportion to their width, and then the deflections (which in some degree are unavoidable) may be so adjusted in setting as not to be conspicuous; and as the cornice is the part most remote from inspection, the imperfection is the less observable. Further, it may be presumed, that if the use of artificial stone were more general, and occasioned consequently a greater demand for this description of work, some means would no doubt be found for rendering the manufacture more perfect. In order to obtain a fall, or current, in the trough gutters, the bottoms are partially filled up with Portland cement, having the greatest thickness towards the centre, and gradually diminished to the outlets. This, besides facilitating the discharge of the rain-water, serves to strengthen the construction, by covering the joints and fortifying the sides. The colour of artificial stone assimilates tolerably well with Portland or Caen stone, but the texture is liable to have too much of the glare of pottery. Its durability, if properly manufactured, may be deemed almost unlimited, and its economy, if judiciously applied, is a further recommendation; but this involves many important considerations for the judgment and discretion of the architect.

Although these remarks have properly been limited to terra cotta and artificial stone, which, as the designation of the first implies, have to undergo the action of fire, yet, as the latter is now applied to a material prepared by a different process, it may not be irrelevant to make some mention of it upon this occasion. It appears that this substance consists of a concrete, formed with cement and sand, variously proportioned, and the forms are produced from moulds; consequently one of its chief advantages is economy, where numerous repetitions are required. If a nice finish is desired, these productions can be worked up and sharpened by the chisel.

In the course of the conversation which followed, Mr. C. H. Smith said, that the cost of mouldings of terra cotta at St. Pancras Church had been stated to be 5s. per foot, but that, he supposed, did not include the expense of cutting out the stone for its reception. He had done a great deal of moulding, and not corrected, in Portland stone, at the Royal Exchange, for 3s. per foot on the average.*

Mr. Smirke admitted the extreme durability of terra cotta; but his experience had proved, that a perfect continuity of line in terra cotta work could not be obtained.

Mr. Blanchard, a manufacturer, exhibited a piece, which, he said, had that perfect continuity. As a caution, he might say in respect to what had fallen from Mr. Smirke, that those who intended to use terra cotta should give a week's notice to the manufacturer, so that it might not be passed too rapidly through the various processes, but be allowed to dry and shrink regularly.

Mr. Scott observed, that of course it was their duty, as architects, to make use of every material which nature had placed at their disposal; and both stone and every other material ought to be employed in such modes, and in such ways, as were legitimate. They were only objectionable so far as they were imitations of other substances; and in the use of plastic materials almost too much honour was given to stone, inasmuch as everything was made to imitate that material. If plastic materials were used, why should they not be used as plastic materials? Terra cotta is a perfectly legitimate substance, and only becomes objectionable when it is turned into an artificial stone. The right solution of the problem was difficult, but he would throw out a hint to those interested in terra cotta—whether they could not introduce enamelled colours into it? It could not then be charged with being an imitation of stone: it would possess exclusively a beauty of which it alone was capable—it would soon have a distinct place and purpose in Architecture—and it would emulate, without imitating, other materials.

ON THE NATURE AND EXTENT OF ORIGINALITY IN ARCHITECTURE.

THE present is evidently a crisis in the career of British architecture. It is probably pregnant with more interest than any former era; and, as in politics, under analogous circumstances, many parties are at strife. We have not only our Conservatives and Reformers, but different grades of both, from a point where they blend into each other to a polar opposition. We have our advocates of chains, our apostles of freedom; and, of course, many conflicting theories and speculations are afloat, from which, however, the judicious observer may call much that is suggestive and valuable. We have been called upon, with great reason and justice, to cease from slavish copying of the works of our predecessors, and to think for ourselves; to plan with reference to our own purposes, in all their peculiarity, and to those alone, and to construct as the nature of our materials and the present state of mechanical science dictate. But man is prone to go to extremes, and there are not wanting those who, like certain reformers of old, would root up all; and that we should not only order the general composition and construction but the decoration also, without reference to foregone art, has by some been assumed as a fundamental axiom of architecture.

This is not a newly-expressed proposition. The opinion seems to have prevailed for years, and frequently finds utterance among amateurs, art critics, and others, who, by their writings or their position, guide the public opinion, that there is something unsound in the practice of using, in any shape, the architecture of another country and time in present English creations; and it is broadly hinted that this is the "accursed thing" in our camp, from which we must be purified if our art can become truthful and prosperous, and take its place in the general march of improvement.

According to theory of these, we must be absolutely independent of precedent, indebted to any age or country of the world; and, taking only the spider for our model, weave all from our own brain. We have been at one extreme of possible practice, that of slavish copying; this party supposes the true practice to be diametrically opposed to it, and would beckon us to its antipodes. They would cut every tie of sympathy that binds us to the beautiful in ancient or foreign art. On the original, but lean, poverty-stricken architecture so produced, no ray of the past must shine; Athens, Rome, Parma, Florence, Venice, Palermo, the wonders of ancient art, the miracles of mediæval design, the cathedral splendours of Strasburg, Cologne, Antwerp, York, and Lincoln, the abbeys of Melrose, Tintern, and Westminster, have all existed in vain, for they are not to be at all referred to in this new style.

Against a consummation such as this, however, we must be permitted to urge in remonstrance, that it would be reducing the architect to a condition as to means in which he was never before placed; a condition to which the practice and example of the world, in literature and in every other art and science, is opposed. It is backed by no precedent, supported by no parallel, in the annals of progression: as well might a mechanic refuse the advantage of some scientific discovery, because he is not its author. The Italians had an architecture which was truly their own, and which is universally acknowledged to be such, and yet it was not thus produced. We talk of the Italian style as if it were something entirely distinct, and of their own invention: though many new features originated with them, they were perhaps not aware they had a style. True successors and followers of the ancients, all they aimed at was the application of the art they had left them to the new institutions and usages of society. They strove, however, to advance; they wrought in a spirit of emulation;—Vignola, Palladio, Bramante, Serlio, and the other classic architects of the sixteenth century, sought to rival their ancient masters, and therefore aimed in their edifices, and in their writings, to exhibit a sort of abstract of their beauties. They drew not their rules of proportion from any one particular edifice, which, as they well knew, might be defective; but, after selecting the most faultless examples, investigated their laws of beauty, sought the secret of their power, and united the graces and excellencies of all. The Italian orders may therefore be considered as ideal. The Roman architecture comes to us through a purifying process, winnowed from much original corruption. In this spirit working, they enriched the style. The poetry of their souls diffused itself over all their creations, and shed new lustre upon the art. Each new mind enriched it, as must ever be the case, with true art and artists. Genius, the deep-eyed, will look beyond the mere element: whatever material he uses, he plans and builds. Amphion-like, by the music of his soul. These great masters, while thus aiming at progression in architecture, had no idea of turning their backs upon the past: the antique orders, with their beautiful and philosophical proportions, were ready prepared to their hands, and, by a diligent study of their æsthetic laws, they, with them, produced works of art that might vie with the ancient models themselves, many of them "bearing the stamp of that rare simplicity," to quote an enthusiastic admirer, "that enchants the mind like an unveiled truth, which appears always easy to those to whom it is disclosed."

What these eminent professors did in Italy has been done elsewhere: Inigo Jones, Wren, Vanbrugh, Sir William Chambers, Gibbs, and others in England; De Lorme, Perrault, the Mansarts, in France, exercised a true and living art; they produced works which have been the admiration of Europe, yet they were not the offspring solely of their own minds; they took the Greco-Roman, or antique elements, working with them according to the great code of truth and nature. The terms "Palladian," or "Italian," which it is common to apply to these works, can refer only to an elementary relationship; the principles of adjustment, which alter not with time and circumstances, and which guided the Greek and Italian designers, they adopted; but they adapted their several edifices to particular local requirements, and used the elements derived from antiquity to express new ideas, and carry out the images of beauty born of their own minds. The architecture I speak of is, therefore, their own, notwithstanding much obligation to Italy. We are indebted to the stately measures and style of Petrarch, Tasso, Ariosto, and others, for a most refining influence upon our early sterling, but homely, verse: yet our property in that verse has never been disputed, nor has our poetry been called Italian.

But whilst referring to these masters, I would not hold up any of them as models of perfection; their best works are far from being such; far from what the antique elements are capable of: we can go beyond them; and, if progress is to be the watchword, we will go beyond them. As long as Whitehall, St. Paul's, and Blenheim exist, the names of Jones, Wren, and Vanbrugh, will be held in reverence; but we should not look upon these

* The total cost of St. Pancras Church was 70,000*l.*